May 27, 1999

Mr. Thomas Ferns
U.S. Department of Energy
Richland Operations Office
P.O. Box 550, MSIN HO-12
Richland, WA 99352-0550

RE: Revised Draft Hanford Remedial Action Environmental Impact Statement and Comprehensive Land Use Plan (HRA-EIS)

Dear Mr. Ferns:

Thank you for the opportunity to comment on the HRA-EIS. Although I am pleased the U.S. Department of Energy (USDOE) has recognized the irreplaceable ecological values of the Wahluke Slope and the Hanford Reach of the Columbia River in their Preferred Alternative within the HRA-EIS, Alternative Two is my preferred alternative for the following reasons:

1. On Page P-1 of the HRA-EIS an identification is made that USDOE "is considering changing the name of this environmental impact statement from the *Hanford Remedial Action Environmental Impact Statement and Comprehensive Land-Use Plan* (HRA-EIS) to the *Hanford Comprehensive Land-Use* EIS. The preamble text omits an important aspect of the scope change. It is this reviewer's understanding that after the 1992 Notice of Intent was publicly commented on, an Implementation Plan was issued. In response to public comments on the Implementation Plan, USDOE responded they would not make specific land use designations. The EIS was released for public comment in 1996 during which USDOE received comments stating that regulators would make cleanup decisions. Now, USDOE has issued a revised draft which primarily addresses land-use designations. It is appropriate to indicate in the preamble either that the HRA-EIS was not originally scoped to include land-use designations or that the scope has significantly changed to primarily address land-use designations. As this reviewer is concerned about local desires to develop particular areas of the Hanford Site prior to the deliberative process that NEPA is designed to ensure, I support Alternative Two as my preferred alternative.

2. The preferred sources of cap materials as reflected in Appendix D includes McGee Ranch. Section D.2.1 approximates 1,629 acres of shrub-steppe habitat would be eradicated. The McGee Ranch provides an invaluable wildlife connection to the Umptanum Ridge and on to the Cascade Range. This connection provides a contiguous wildlife refuge in one of the last, large tracts of shrub-steppe habitat in Washington State. Therefore, Alternative Two is my preferred alternative as the land-use designation for the McGee Ranch is preservation. It is requested that the USDOE identify Alternative Two as their preferred alternative.

3. Section 1.3 of the HRA-EIS represents excellent justification for the performance of a thorough analysis of all land-use designations imposed by CERCLA Record of Decisions (RODs). The sentence which states "If the desired 'highest and best use' land use cannot be attained because of remediation-linked technical or economic constraints, or if the remedial action required to achieve that land use would cause unacceptable-unavoidable impacts, then the land use designation of this EIS would be amended using the policies and implementing procedures in Chapter 6 to the next 'highest and best use' land use" is confusing and what may lend to "loopholes" in the land-use decision-making process. It is this reviewer's observation that the CERCLA RODs may very likely be inappropriately driving the land-use designations in certain areas of the Hanford Site. For example, in the 300 Area, cleanup levels are currently being established to support an "industrial" land-use. As such, where certain ARARs would normally require lower cleanup levels (residential due to Hanford not being zoned "industrial"), the argument that CERCLA will not require residential cleanup standards, therefore it is not good use of federal funds to attain lower cleanup levels is commonly stated. This is an inappropriate and premature land-use designation that very likely may preclude certain future uses of certain areas and/or environmental medias at the Hanford Site. As Alternative Two is most protective and does not preclude options associated with use of areas and/or environmental medias, it is my preferred alternative.

4. The preferred sources of cap materials as reflected in Appendix D includes McGee Ranch. Section D.2.1 approximates 1,629 acres of shrub-steppe habitat would be eradicated. From Figure D-1 and the text's description on pages D-2 and D-4, it cannot be determined if the McGee Ranch as a quarry site would be limited to the No-Action Alternative and Alternative Three as indicated by lines 32-37 on page D-4. It is recommended that the topographic boundaries of the potential quarries be reflected (to scale) on Figure D-1 (i.e., a "footprint"). As Alternative Two clearly preserves wildlife corridors and there is no confusion as to the potential eradication as indicated by Section D.2.1 for the Preferred Alternative, Alternative Two is my preferred alternative. It is requested that the USDOE identify Alternative Two as their preferred alternative.

5. The preferred sources of cap materials are identified in Appendix D. Line 36, page D-4 identifies the preclusion of McGee Ranch "as a source of materials for construction of caps." Similarly, Line 2, page D-5 identifies Pit 30 as a source of "materials for construction of caps." Similarly, Line 4, page D-6 identifies the Vernita Quarry as supplying a "sufficient quantity of basalt for cap construction." Page G-2 provides a definition of "cap". Page G-11 provides a definition of "rip rap". Page G-1 provides a definition of "basalt". All three definitions are provided in context of cap construction or cap construction materials. The distinction between "cap" and "fill" material does not appear to be made in the HRA-EIS. Alternative Two clearly preserves these areas and maintains wildlife corridors without further clarification being necessary. Therefore, Alternative Two is my preferred alternative. It is requested that the USDOE identify Alternative Two as their preferred alternative.

6. The potential sources of cap materials are reflected in Appendix D. The TWRS-EIS did not address closure alternatives. It is this reviewer's understanding that further NEPA analysis (a supplemental EIS) is necessary to evaluate tank closure alternatives. The further analysis will consider tank capping and filling material needs. Clearly, this HRA-EIS represents only a preliminary screening and further NEPA analysis is necessary. In addition, it is inappropriate to make mining land-use designations until the tank closure needs are defined and the alternatives are analyzed. Alternative Two would preserve all potential sources to be analyzed and considered without precluding options. Therefore, Alternative Two is my preferred alternative. It is requested that the USDOE identify Alternative Two as their preferred alternative.

7. The potential quarry sites are described in Appendix D. The necessity to request an eligibility determination, a findings of effect and plans for mitigating adverse impacts of a proposed action is described on page D-4 in relation to the McGee Ranch. As such, it is this reviewer's understanding that such an action would constitute a major federal action of significant impact under 40 CFR Part 1508.18 through 1508.27. Although the text on page D-4 may imply a major federal action, the NEPA procedural applicabilities are neither clearly explained nor is a commitment to impose a biological and cultural analysis. Similarly, the necessary conductance of a cultural resource and sensitive species surveys is described on page D-4 in relation to Pit 30. Again, the text on page D-4 may imply a major federal action, but the NEPA applicabilities or requirements are not clearly explained. Similarly, the necessary conductance of ecological surveys at three privately operated on-site quarries is described on page D-5. Clearly, the HRA-EIS represents only a preliminary screening and further NEPA analysis is necessary. As such, it is inappropriate to designate land for conservation mining land use prior to performing the NEPA-required analyses. Alternative Two would satisfy the requirement to change the land-use designation through the NEPA process via a Record of Decision which would be supported by the required analyses. Therefore, Alternative Two is my preferred alternative. It is requested that the USDOE identify Alternative Two as their preferred alternative.

8. Alternative Two does not designate land for "Conservation (Mining)". Appendix D discusses the need at Hanford for mineral sources and describes the potential quarry sites. Appendix D stops well short of providing the full analysis of biological and cultural impacts of the various alternatives. The NEPA process clearly requires such an analysis under 40 CFR Part 1508.18 through 1508.27. In addition the "Tank Waste Remediation System, Hanford Site, Richland, Washington, Final Environmental Impact Statement" (DOE/EIS-0189, August 1996) clearly commits to a "future NEPA analysis" in relation to future borrow site decisions (see page 3-114 of the TWRS-EIS). All of the alternatives, with the exception of Alternative Two, designate lands for "Conservation (Mining)". In Appendix D (page D-2), it is explained that "Upon approval of the Record of Decision for the Hanford Remedial Action Environmental Impact Statement and Comprehensive Land Use Plan (HRA-EIS), development of a quarry in an area without a land-use designation consistent

with mining activities would require changing the land-use designation for that area through the National Environmental Policy Act of 1969 (NEPA) process.". Therefore, all alternatives, except Alternative Two, can be interpreted to circumvent the NEPA process requirement to perform a full biological and cultural analysis by attaching the "Conservation (Mining)" designation. Prior to performing a full biological and cultural analysis, it is inappropriate to attach such land use designations in this fashion. This neither upholds the borrow site commitments of the TWRS-EIS nor satisfies NEPA analysis requirements. Therefore, Alternative Two is my preferred alternative. It is requested that the USDOE identify Alternative Two as their preferred alternative.

9. The text describing Alternative Two repeatedly identifies the position that existing contaminated groundwater is considered a constraint to groundwater use. The text also identifies the opinion that due to the contaminated groundwater, the private sector will be unable and/or unwilling to accept the environmental liabilities. The Alternative Two text states "Prohibiting irrigation would protect public health and the environment by preventing remobilization of contaminants entombed within the river's sediment and the shoreline's soil column...".

   Groundwater and vadose contamination is discussed in Section 4.3.2 of the HRA-EIS. Although Section 4.3.2 does not include groundwater contamination plume contour maps for the principal groundwater contaminants, the text does describe the existence of significant groundwater contamination. Unfortunately, the text does not provide a good description of the numerous well-documented groundwater contamination plumes found beneath the Hanford Site. While the text generally describes certain groundwater contaminants, it does not identify the existence of many more well documented contaminant plumes. For example, there are dozens of contaminant plumes associated with the tank farm waste releases, yet the text only primarily discusses two radiological contaminants (cesium-137 and cobalt-60) and only mentions six additional radionuclides detected in the groundwater. Similarly, Section 4.3.2.4.3 only mentions a few contaminants of concern along the Columbia River while there are numerous, well documented groundwater contamination plumes as well as groundwater remediation (pump and treat) systems designed to address the migrating plumes.

   Section 4.3.2.4.4 does not mention the fact that tank farm vadose and groundwater contamination is such that the Washington State Department of Ecology is imposing RCRA corrective action requirements via proposed Tri-Party Agreement Milestone M-45.

   Section 4.3.2.4.4 does not describe the resources currently being dedicated to the Hanford Site groundwater integration effort. The contaminated groundwater at Hanford is such that there are currently millions of dollars annually dedicated to gain a better understanding of the groundwater remediation needs associated with the Hanford Site. Section 4.3.2.4.4 does mention the "two programs" currently under

way to characterize and monitor vadose zone contamination but does not reference the public skepticism regarding the approach (i.e., Hanford Advisory Board advice).

Appendix E provides supplementary information for cumulative impacts analysis. It is noted that the portion of Section E.1.3 which describes the Tank Waste Remediation System (TWRS) EIS does not identify risks associated with contaminated groundwater potentially resulting from the action. It is also noted that an analysis of the impact to groundwater due to the action was provided in the EIS. In addition, page 5-127 of the TWRS EIS discusses the groundwater contamination of the proposed action in relation to the land-use commitments by the following:

> Groundwater use at the Hanford Site is controlled at present because of existing groundwater contamination. Groundwater contamination has land-use implications. While some land uses might not be precluded because of underlying groundwater contamination, the value of land for potential future uses such as agriculture could be diminished or restricted because the underlying groundwater could not be used. Under all EIS alternatives, TWRS activities would contribute to future Site groundwater contamination.

In summary, the groundwater contamination extent and rate of migration at and beyond the Hanford Site is neither well understood nor currently being evaluated in a comprehensive fashion. Therefore, Alternative Two is my preferred alternative because it recognizes the probable magnitude of the groundwater contamination as well as the inappropriateness of transferring or even sharing environmental liabilities. It is requested that the USDOE identify Alternative Two as their preferred alternative.

Note: The Hanford Site Quick Facts on page 4-40 does not include technetium-99 or vinyl chloride. Both contaminants exist as mapped contamination plumes.

Note: The waste releases and/or leaks from the SST's is not included in the first paragraph of Section 4.3.2.3.1. Recommended text is: "...because of liquid waste disposal, SST waste releases, and/or leaks.".

Note: Sections 4.3.2.3.1, 4.3.2.3.2, or 4.3.2.4 do not discuss the anticipated/predicted contaminant travel times. In particular, a discussion of contamination travel times from the Central Plateau to the Columbia River is omitted.

10. Alternative Two identifies High-Intensity Recreation only for the area surrounding B Reactor. The alternative description also identifies the land-use designation would allow conversion of the reactor into a museum with museum-related facilities. The definition of High-Intensity Recreation land-use designation provided on page G-6 of the HRA-EIS indicates that the designation could allow the development of recreational facilities such as golf courses, recreational vehicle parks, and boat

launching facilities. Clearly, the land-use designation is synonymous to development. Therefore, Alternative Two is my preferred alternative. It is requested that the USDOE identify Alternative Two as their preferred alternative.

11. Alternative Two does not identify any conservation areas dedicated for grazing. Grazing increases fire danger and spreads noxious weeds. In these ways, grazing will harm sensitive species' habitat. Furthermore, it is my belief that the position of grazing controlling fire and weed as suggested on page 3-21 of the HRA-EIS is unsubstantiated at the Hanford Site or in such a shrub-steppe environment. It is my position that grazing will not protect sensitive cultural and biological resources. Therefore, Alternative Two is my preferred alternative. It is requested that USDOE either provide the basis for the position that grazing would control weed and still protect sensitive cultural and biological resources or identify Alternative Two as their preferred alternative.

12. Alternative Two does not identify any conservation areas dedicated for grazing. The Preferred Alternative identifies grazing entirely around the 200 Areas and in several places right up to the 200 Area boundaries (fences). Considering the high number of Occurrence Reports issued regarding radiological contamination surveys where contamination is found beyond the 200 Area fences, this would seem inappropriate to identify potential grazing to this extent. In addition, there are pits, ponds, ditches, lagoons, etc., which are located beyond the 200 Area fences in which radioactive liquid waste was managed. The radiological postings are numerous beyond the 200 Area fences. Configuration control of radiological material is difficult to maintain and nature has demonstrated this by the survey findings of radioactive "specks" commonly found in animal feces, animal bodies, insects, plants, dust, soil, sediment etc. In fact, there is a tumbleweed collection program due to the need to control radiation configuration in just this particular media. The grazing land-use designation is clearly subject to public concern in relation to consumptive products grazed on the Hanford Reservation, if not ridicule (consider the recent such ridicule by the columnist Dave Barry). The land-use designation of grazing as identified in the Preferred Alternative is clearly inappropriate until such time as configuration control can be more consistently demonstrated. Therefore, Alternative Two is my preferred alternative. It is requested that the USDOE identify Alternative Two as their preferred alternative.

13. The description of Alternative Two correctly identifies that activities which change the course of the Columbia River could release chemical and radioactive contaminants "that have been entombed within the fine sediments of the Hanford Reach". The alternative explains this contaminant entombment as the basis for the preservation designation of the entire Wahluke Slope. This explanation is supported by routine radionuclide surveys conducted along the Hanford Reach. One such survey of the 100-D Island resulted in a letter from the Washington State Department of Health to a representative of the Environmental Protection Agency which concludes with the following: "This recommendation does not apply to the remediation of reactor effluent pipes in the Hanford Reach of the river because it is

not clear to the Department if these pipes are a significant repository of radioactive specks." It is my opinion that until such time that we understand the extent and rate of migration of contaminants, Alternative Two best addresses the issues associated with not transferring or even sharing liabilities. Similarly, Alternative Two best preserves all options by preserving and protecting the majority of the Hanford Site so that no future option is precluded. Therefore, Alternative Two is my preferred alternative. It is requested that the USDOE identify Alternative Two as their preferred alternative.

Note: the following references related to radionuclide surveys are not included in Section 9 of the HRA-EIS:

WDH, 1994, "Radioactivity In Columbia River Sediments And Their Health Effects," D. Wells.

PNL, 1993, "Investigation of Exposure Rates And Radionuclide And Trace Metal Distributions Along the Hanford Reach of the Columbia River", PNL-8789, Pacific Northwest Laboratory, Richland, WA (February).

PNL, 1995, "Measurement of Environmental Radiation Exposure Rates from Vernita, Hanford Reach, and Richland Area Shores", PNL-8789, Addendum 1, Pacific Northwest Laboratory, Richland, WA (February).

14. Alternative Two applies the preservation land-use designation to the Wahluke Slope, the Hanford Reach, the Hanford Reach Islands, the McGee Ranch, and the Arid Lands Ecology Reserve. I support designation of all public lands on the Wahluke Slope, the Hanford Reach, the Hanford Reach Islands, the McGee Ranch and the Arid Lands Ecology Reserve as National Wildlife Refuge and Wild and Scenic River as has been recommended in, and Record of Decision signed for, the Hanford Reach Final EIS, June 1994.

15. The text describing Alternative Two repeatedly identifies the position that conveyance of ownership should not occur due to remaining soil contamination. The existence of thousands of solid waste management units (SWMUs) as reflected by the Waste Identification Data System (WIDS) is directly applicable to this position. The HRA-EIS neither describes the existence of the numerous SWMUs nor gives any indication of the time or money required to remediate these sites prior to a prudent conveyance of ownership. This particular lack of information could be considered an omission of disclosure. As this EIS addresses land-use designations, this omission represents a significant deficiency. As such, it could be interpreted that certain land-use designations are synonymous with the willingness to share environmental liabilities. Although it is recognized that the HRA-EIS does describe the large contaminant sources and plumes, it does not clearly indicate the length of time associated with remediation of the numerous sites. For example, if the schedule for remediating the various areas along the Columbia River were considered, it would stand to reason that a preservation land-use designation would be the most

appropriate designation during the interim. This is to say that it will take decades to remediate and confirm the adequacy of remediation in many areas of the Hanford Site. Such a site designation would not preclude future land-use re-designations after remediation is defined and implemented. In summary, the extent of soil contamination at and across the Hanford Site is neither well understood nor currently being evaluated in a comprehensive fashion. Therefore, Alternative Two is my preferred alternative because it recognizes the probable magnitude of the soil contamination as well as the inappropriateness of transferring or even sharing environmental liabilities. It is requested that the USDOE identify Alternative Two as their preferred alternative.

16. The term "institutional control" is used in the preamble of the HRA-EIS. The definition of institutional control is noted on page G-7. The definition provided in Appendix G uses the term "human institutions" which is somewhat confusing. Recommended wording (taken from EPA, Region 10's final policy on the use of institutional controls at federal facilities) is: "generally includes all non-engineered restrictions on activities, access, or exposure to land, groundwater, surface water, waste and waste disposal areas and other areas or media". Due to what could easily represent numerous, confusing, non-justified, non-integrated, and "final-remedy-like" institutional controls placed on numerous sites (solid waste management units) associated with various Hanford properties or environmental media (groundwater, soil, sediment, etc), I support Alternative Two.

17. The term "institutional controls" is repeatedly used in Table 1-3. It is requested that the HRA-EIS reference and discuss EPA Region 10's "Final Policy on the Use of Institutional Controls at Federal Facilities". The policy discusses the use of institutional controls as a component of remedy selection at federal facilities. It is my observation that contamination characterization of structural property and environmental media at and across the Hanford Site is simply neither occurring nor being addressed in a comprehensive, consistent, regulatory-correct fashion. As stated in a previous comment, due to what could easily represent numerous, confusing, non-justified, non-integrated, and "final-remedy-like" institutional controls placed on numerous sites (solid waste management units) associated with various Hanford properties or environmental media (groundwater, soil, sediment, etc) as is shown by the various institutional controls imposed by CERCLA RODs, I support Alternative Two. Alternative Two is my preferred alternative because it most reasonably recognizes the probable magnitude of the contamination as well as the inappropriateness of transferring or even sharing environmental liabilities. It is requested that the USDOE identify Alternative Two as their preferred alternative.

18. Alternative Two designates the majority of the Hanford Site as preservation for land-use purposes. As this EIS was supposed to be about remedial action, it is my position that Alternative Two's land-use designations would offer consistent cleanup goals and objectives across much of the Hanford Site. Currently, as is clearly demonstrated by Tables 1-1, 1-2, and 1-3, there are numerous remedial action needs occurring simultaneously. I support Alternative Two as my preferred alternative because it

does not support the ultimate land-use-driving decisions that are obviously occurring as demonstrated by Tables 1-1, 1-2, and 1-3. It is my observation that such land-use-driving CERCLA ROD decisions are occurring in relation to significant portions of the Hanford Site in the 100 and 300 Areas. When such decisions preclude certain land-use options or even bias the land-use options, they are inappropriately being made when they are primarily justified by cost. Similarly, when such decisions are being made and not addressing all applicable and substantive ARARs, they also represent an inappropriate application of the CERCLA process as well as inappropriate land-use-driving decisions. This EIS is significantly deficient in that such issues are not analyzed. Alternative Two would provide clear Hanford Site remediation objectives. Alternative Two would also allow remediations to be completed without the preclusion of any ultimate land-use alternative so that in time, all options of land-uses remain viable for consideration. In short, Alternative Two would compliment the morass of land-use-driving decisions currently being made. It should be noted that some of the land-use-driving decisions currently being made are not justified, do not have a technical basis, do not honor substantive ARARS and are thus, inappropriate. For these reasons, it is requested that the USDOE identify Alternative Two as their preferred alternative.

19. As indicated by several previous comments, the HRA-EIS lacks an analysis of land-use-driving decisions currently being made regarding the Hanford Site. The usage of the term "highest and best use" on page 1-17 without a definition in Appendix G does not allow the reader/reviewer to understand the significance of the land-use-driving decisions being made and as indicated by Table 1-1, 1-2, and 1-3. Without a definition of this term, the discussion of Section 1.3 is unclear and deficient. Therefore, Alternative Two would best compliment the morass of land-use-driving decisions currently being made. It is requested that the USDOE identify Alternative Two as their preferred alternative.

20. The water resources discussion of Section 5.2.2 on pages 5-15 through 5-21 identifies potential water impacts of the various alternatives but does not evaluate or analyze the environmental impacts. The mitigation measures discussion of Section 5.2.2.7 on pages 5-21 through 5-22 identifies "mitigation measures that could reduce impacts to water resources". Clearly, the entire discussion is premised on potentialities and not on an analysis of cultural and biological resource impacts. Considering the salmon recovery needs/requirements, this discussion is significantly deficient. Therefore, I support Alternative Two as my preferred alternative as it would best protect water resources until such time as the numerous competing needs and resulting impacts can be properly analyzed. It is requested that the USDOE identify Alternative Two as their preferred alternative.

21. The biological resources discussion of Section 5.2.3 on pages 5-22 through 5-30 identifies potential biological impacts of the various alternatives but does not evaluate or analyze the cultural or biological impacts. The mitigation measures discussion of Section 5.2.3.7 on page 5-30 identifies "mitigation measures that could reduce impacts to biological resources". Clearly, the entire discussion is premised on

potentialities and not on an analysis of cultural and biological resource impacts. Considering the significance of the sensitive species found at the Hanford Site, this discussion is significantly deficient and in particular, lacks the required analysis. Therefore, I support Alternative Two as my preferred alternative as it would best protect biological resources until such time as the numerous competing resource needs, biological reviews/evaluations and resulting impacts can be properly analyzed. It is requested that the USDOE identify Alternative Two as their preferred alternative.

22. Due to the significant deficiencies associated with the HRA-EIS, it is requested that the USDOE designate all public lands on the Wahluke Slope, the Hanford Reach, the Hanford Reach Islands, the McGee Ranch, and the Arid Lands Ecology Reserve as National Wildlife Refuge. Furthermore, in keeping with the many land-use-driving RODs that have been and are being issued for remedial actions, it is requested that the USDOE issue a separate ROD for all the areas previously mentioned in this request/comment. These areas represent irreplaceable biological and cultural resources and should not wait for protection until the complex and long-term decisions involving cleanup across the Hanford Site are made.

Again, thank you for the opportunity to comment on the HRA-EIS. If you have any questions about the above comments, recommendations, and/or requests, I may be contacted at the address and/or telephone number provided below.

Sincerely,

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c: Lower Columbia Basin Audubon Society
Nez Perce Tribe
Yakama Tribe
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Keith Klein, Hanford Site Manager